

Work Order ID 62609

October 5, 2010 10:40:27 AM



Page 1

Item ID: D212-664-201TRN

Accept



Setup Start



Revision ID:

Stop



Item Name: Crosstube Turning Detail

Start Date: 10/05/10 Start Qty: 1.00



Cust Item ID:

Required Date: 10/15/10 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan:  Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr

Revision Nbr

D212-664-241

Rev D

100

0.00



Mori Seiki

MORI SEIKI CNC LATHE LARGE

Memo

0.00



1 0

Mori Seiki CNC Lathe Large

1-Fill tube with sand & install plugs DT8534 on both ends as per Folio FA114
2-Turn first side as per Folio FA114
3- File transition lines smooth.

110

QC1- Inspect dimensions to dimension sheet

0.00



QC

Memo

0.00



1 0

Quality Control

120

0.00

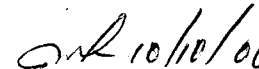


Mori Seiki

MORI SEIKI CNC LATHE LARGE

Memo

0.00



1 0

Mori Seiki CNC Lathe Large

1-Turn second side as per Folio FA114
2- File transition lines smooth.
3-Remove sand and plugs
4- scribe batch # and part # as per dwg

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 62609

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Page 2

Item ID: D212-664-201TRN

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Cust Item ID:

Required Date: 10/15/10 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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130

QC1- Inspect dimensions to dimension sheet

0.00



QC

Memo

0.00

OK 10/10/07

1 0

Quality Control

140

QC8- Inspect parts - second check

0.00



QC

Memo

0.00

8/10/10/07

TL

Quality Control

150

Crosstubes Chemical Conversion

0.00



HandFXtube

Memo

0.00

SAD 10-10-13

1

Hand Finishing Crosstubes

Chemical Conversion Coat as per within 24 hours of machining

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 62609

October 5, 2010 10:40:28 AM



Page 3

Item ID: D212-664-201TRN

Accept



Setup Start



Revision ID:

Stop



Item Name: Crosstube Turning Detail

Start Date: 10/05/10 Start Qty: 1.00



Cust Item ID:

Required Date: 10/15/10 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

160

QC3- Inspect Part Finish

0.00

10-10-13



QC

Memo

0.00

Quality Control

170

Packaging

0.00



Packaging

Memo

0.00

Packaging

Identify and stock in kanban rack
Location: Landing Gear

EZ 10-10-13 ⑦

180

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

10/10/13

ME
10-10-13

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

October 5, 2010 10:40:26 AM

Page 1

Work Order ID: 62609

Parent Item: D212-664-201TRN

Parent Item Name: Crosstube Turning Detail

Start Date: 10/05/10

Required Date: 10/15/10

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:A 08-03-06 new issue DD verified by:ec
IPP Rev B 08.04.02 Removed polish EC verified DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
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D6006-129

Manufactured

No

120

Each

37.0000

1

1



Crosstube Material

Location

Loc Qty

Loc Code

LG

37

23970

2

26550

14

34690

11

38338

10

1 on 10/10/06

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD	Work Order: 62609
Description: Crosstube Assembly (205/212 High Aft)	Part Number: D212-664-241
Inspection Dwg: D212-664-241 Rev: D	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

Inspection Sheet Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	0.200	+/-0.010	2.08	—	Vern	ML-7
	R0.063	+/-0.010	R.063	—	Rad-gage	REF
	2.990	+0.005/-0.000	2.993	—	Micr	ML-03
	5.237	+/-0.030	5.237	—	Vern	ML-7
	2.600	+0.005/-0.000	2.601	—	Vern	ML-7
	2.686	+0.005/-0.000	2.690	—	Micr	ML-03
	2.770	+0.005/-0.000	2.774	—	Micr	ML-03
	2.854	+0.005/-0.000	2.858	—	Micr	ML-03
	2.938	+0.005/-0.000	2.941	—	Micr	ML-03
	3.021	+0.005/-0.000	3.026	—	Micr	CNC-05
	3.133	+0.005/-0.000	3.138	—	"	"
	3.179	+0.005/-0.000	3.183	—	"	"
SIDE B	0.200	+/-0.010	2.05	—	Vern	ML-2
	R0.063	+/-0.010	R.063	—	Rad-gage	REF
	2.990	+0.005/-0.000	2.992	—	Micr	ML-03
	5.237	+/-0.030	5.237	—	Vern	ML-7
	2.600	+0.005/-0.000	2.603	—	Vern	ML-7
	2.686	+0.005/-0.000	2.690	—	Micr	ML-03
	2.770	+0.005/-0.000	2.775	—	Micr	ML-03
	2.854	+0.005/-0.000	2.858	—	Micr	ML-03
	2.938	+0.005/-0.000	2.942	—	Micr	ML-03
	3.021	+0.005/-0.000	3.026	—	Micr	CNC-03
	3.133	+0.005/-0.000	3.138	—	Micr	CNC-03
	3.179	+0.005/-0.000	3.184	—	Micr	CNC-03
	124.362	+/-0.020	124.360	—	R-tape	ML-2

Measured by: <i>amf</i>	Audited by: <i>S</i>	Preliminary Approval:	N/A
Date: 10/10/07	Date: 10/10/07	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	05.04.27	New Issue (P/O D412-664-201)	KJ/JLM	
B	06.03.09	Tolerance for 5.237 was +/-0.001	KJ/JLM	
C	07.05.08	Dwg Rev. updated	KJ/JLM	
D	10.08.03	Dimension 124.362 was 124.36	KJ	<i>[Signature]</i>

D

Item	Qty -241	Qty -241B	Part Number	Description
1	X		D212-664-241	CROSSTUBE ASSEMBLY (205/212 HIGH AFT)
2		X	D212-664-241B	CROSSTUBE ASSEMBLY (214 HIGH AFT)
3	1	1	D6006-129	CROSSTUBE
4	2	2	D2940-1	SUPPORT
5	4	4	D3595-063-530	RUBBER CUSHION
6	4	4	MS21920-28	CLAMP (OR MS21920-30)
7	A/R	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)

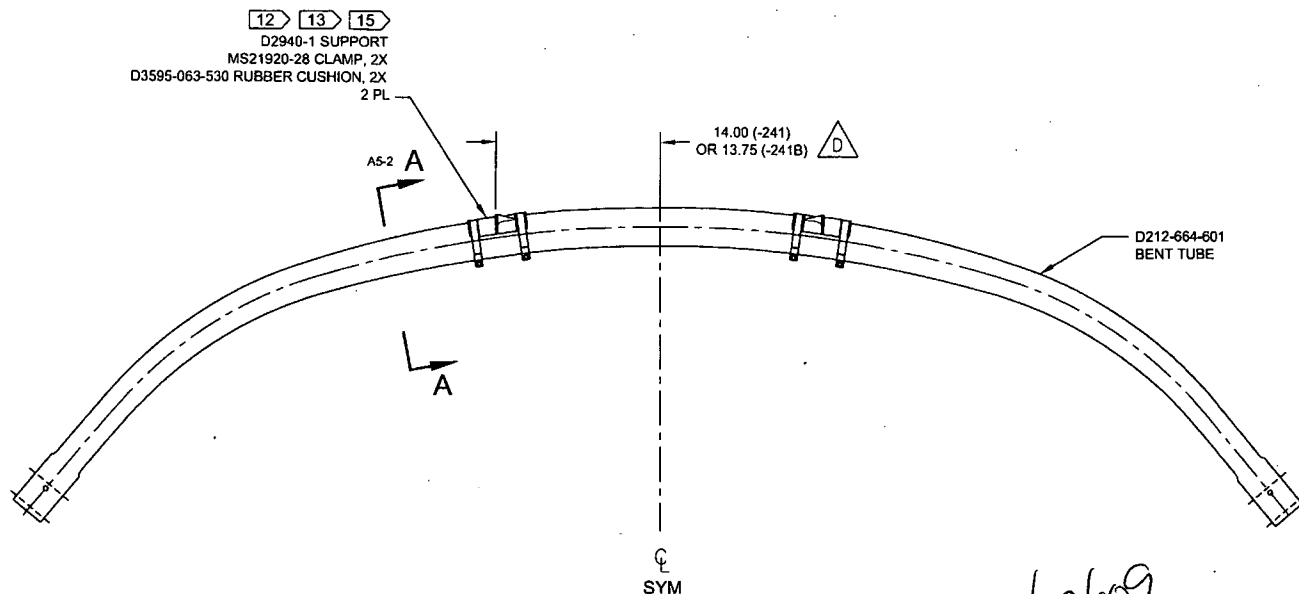
GENERAL NOTES:

- MATERIAL: MANUFACTURED FROM D6006-129
FINISHED LENGTH = 124.362±0.020
- FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- UNITS: INCHES UNLESS OTHERWISE NOTED.
- BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- IDENTIFICATION: SCRIBE DART PART NUMBER "D212-664-XXX" AND BATCH NUMBER ON INSIDE OF CUFF USING VIBRATING STYLUS.
- WEIGHT: D212-664-241 = 44.2 lbs (PER IIN-D212-664)
D212-664-241B = 44.2 lbs (PER IIN-D212-664)
- PART IS SYMMETRIC ABOUT CENTERLINE.
- RUN CUTTER OFF PART. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.
- BEND PROGRESSIVELY WITH A MINIMUM OF 5 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- INSTALL D2940-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE OF D2940-1 THAT WILL BE IN CONTACT WITH THE CROSSTUBE PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- INSTALL MS21920-28 CLAMPS (OR -30) WITH D3595-063-530 RUBBER CUSHIONS TO SECURE THE D2940-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE OF CROSSTUBE SUPPORT.
- EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- TORQUE CLAMPS 80 TO 100 IN.-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

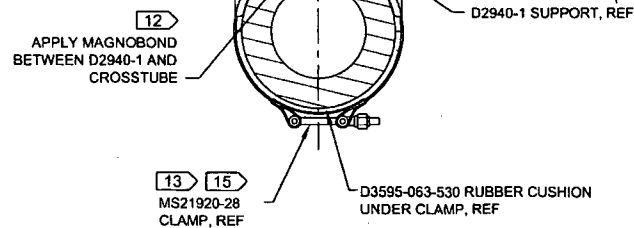
W1062609

RELEASED
2009-10-29

D	REFORMAT/REVISE GENERAL NOTES/PART LIST; REORGANIZED VIEWS AND REFORMATTED DRAWING TO CURRENT STANDARDS; ADD -241B (ZN D4-2, B4-2); REMOVED REF & ADD TOLERANCES (ZN D8-3 & C4-3, C6-3 & A8-3); RELOCATED FLAG #6 PER PAR 08-046 (ZN A5-3); MOVED TURNING DETAIL & UPDATED TOLERANCE TO SHEET 4	RF	09.09.30
C	REMOVE -1009 ABRASION STRIP; ADD MAGNOBOND 6398, CUSHION, REVERSE CLAMPS	PH	07.03.08
B	ADD HOLES FOR COMPATABILITY WITH BHT/AA SKIDTUBES	PH	05.02.04
A	NEW ISSUE	PH	00.12.12
REV.	DESCRIPTION	BY	DATE
DESIGN	PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	PH	DRAWING NO.	REV. D
MFG. APPR.	PH	D212-664-241	SHEET 1 OF 4
APPROVED	PH	TITLE	SCALE
DE APPR.	PH	CROSSTUBE ASS'Y (205/212 HI AFT)	NTS
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**D212-664-241/-241B
ASSEMBLY DETAIL**

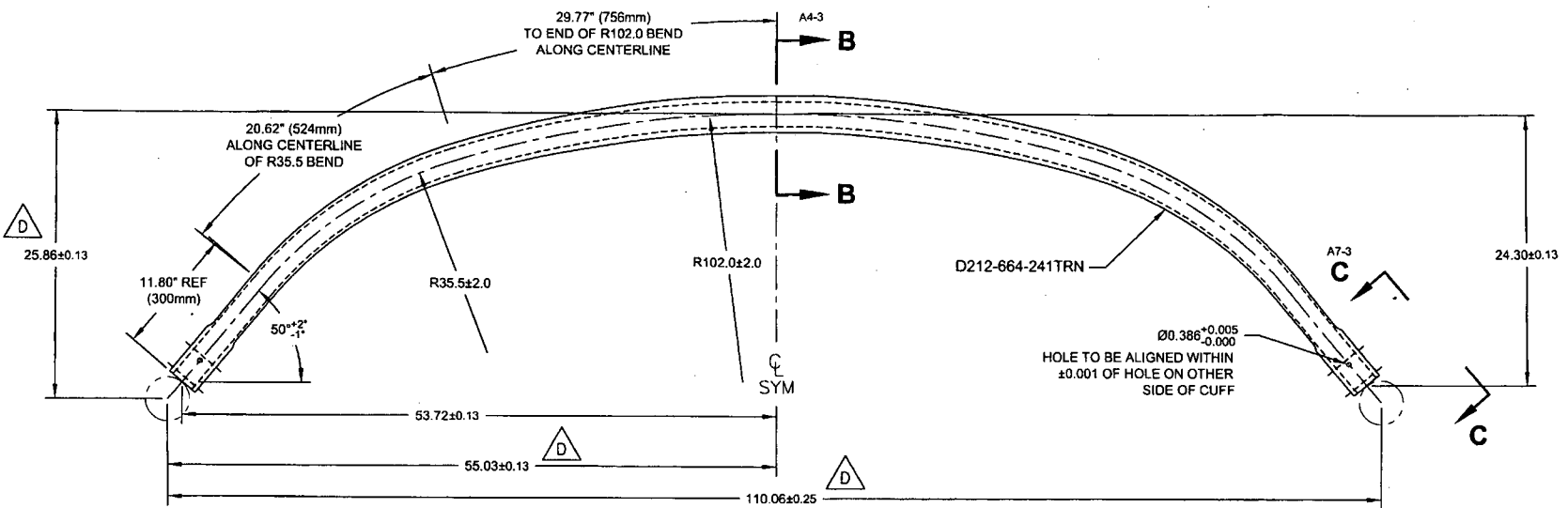


SECTION A-A
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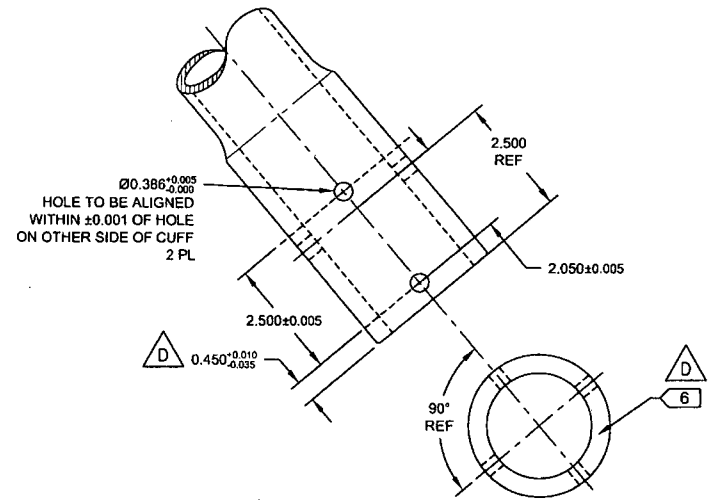
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2009-10-28

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CHECKED	QP	DRAWING NO.	REV. D
MFG. APPR.	DS	D212-664-241	SHEET 2 OF 4
APPROVED	AD	TITLE	SCALE
DE APPR.	TH	CROSSTUBE ASSY (-241 HI AFT)	NTS
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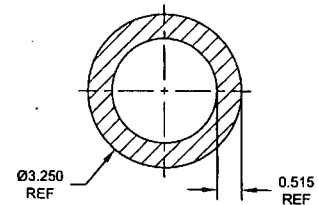
8 7 6 5 4 3 2 1



D212-664-601 10 D
BENDING AND DRILLING DETAIL



VIEW C-C: CUFF DETAIL D2-3
SCALE 3X



SECTION B-B D4-3
SCALE 4X

62609

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R 2009 -10- 29

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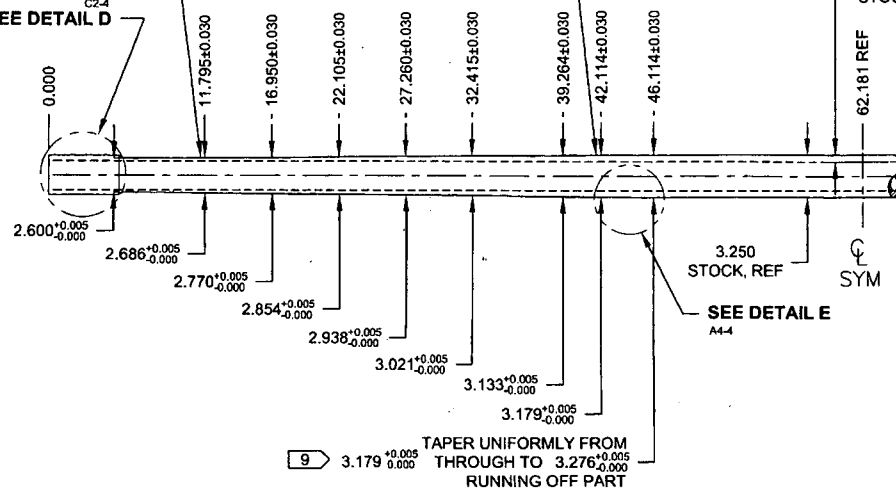
8 7 6 5 4 3 2 1

R100.0 TRANSITION
BETWEEN TAPERED
SECTIONS

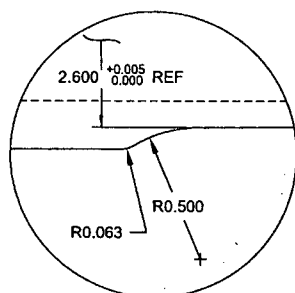
R100.0 TRANSITION
BETWEEN TAPERED
SECTIONS

0.515 WALL
STOCK, REF

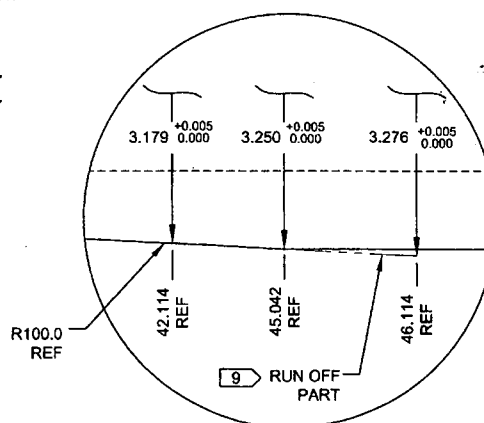
SEE DETAIL D



D212-664-241TRN
TURNING DETAIL



DETAIL F:
CUFF TRANSITION
SCALE 10X
C2-4



62609

RELEASED
2009-10-29
MJP

DESIGN	PH	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	Q	DRAWING NO.	REV. D
MFG. APPR.	DS	D212-664-241	SHEET 4 OF 4
APPROVED	AD	TITLE	SCALE
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